

# **Artificial intelligence in education: Addressing ethical challenges in K-12 settings**

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## **Abstract**

Artificial intelligence (AI) is a field of study that combines the applications of machine learning, algorithm productions, and natural language processing. Applications of AI transform the tools of education. AI has a variety of educational applications, such as personalized learning platforms to promote students' learning, automated assessment systems to aid teachers, and facial recognition systems to generate insights about learners' behaviors. Despite the potential benefits of AI to support students' learning experiences and teachers' practices, the ethical and societal drawbacks of these systems are rarely fully considered in K-12 educational contexts. The ethical challenges of AI in education must be identified and introduced to teachers and students. To address these issues, this paper (1) briefly defines AI through the concepts of machine learning and algorithms; (2) introduces applications of AI in educational settings and benefits of AI systems to support students' learning processes; (3) describes ethical challenges and dilemmas of using AI in education; and (4) addresses the teaching and understanding of AI by providing recommended instructional resources from two providers—i.e., the Massachusetts Institute of Technology's (MIT) Media Lab and Code.org. The article aims to help practitioners reap the benefits and navigate ethical challenges of integrating AI in K-12 classrooms, while also introducing instructional resources that teachers can use to advance K-12 students' understanding of AI and ethics.